

REMARKS

This is in response to the Office Action of February 27, 2009. Claims 73-77 are cancelled, without prejudice, in order to expedite the prosecution of this application. The feature of claim 68 is incorporated into claim 1, and claim 68 is accordingly cancelled, without prejudice. The term "functional" in the claims is replaced with the more definitive term "microbiocidal." New claims 79 and 80 correspond, respectively, to claims 1 and 78 with the product-by-process limitations removed. This is appropriate inasmuch as the novel compositions of matter in question are adequately defined by their ESR and X-ray diffraction characteristics. New claims 81 and 82 are drawn to the transition metal silicates of claims 79 and 80, respectively. No new matter is introduced into the application by this Amendment. Claims 1, 55-71, and 78-82 are now pending in this application, of which claims 60-67 stand withdrawn from consideration on their merits.

Formal matters

Claims 72-74 were rejected under the second paragraph of 35 U.S.C. § 112 as failing to define the invention properly. Office Action, page 2. Claims 72-74 are now cancelled, thereby obviating this ground of rejection.

Prior art rejections

Claims 1, 68-71, and 73-77 were rejected under 35 U.S.C. §§ 102-103 over US 3,836,633 (Beschke). Office Action, pages 2-4. Claims 55-59 and 78 were rejected under 35 U.S.C. § 103 as being unpatentable over Beschke in view of US 5,632,904 (Samad). Office Action, pages 4-7. The rejections are respectfully traversed. None of the claims as amended herein is anticipated by the Beschke reference. As discussed below, the present claims all define inventions which are patentable over the Beschke and Samad disclosures.

The present invention is based upon a discovery that cupric silicate having a given silicate to copper ratio has a significantly different structure when prepared under, for instance, acidic conditions as compared to when it is prepared under alkaline conditions.

For instance, cupric silicate having a silicate to copper ratio of 1:0.78 possesses the

following properties when prepared under acidic conditions: characteristic g values of the peaks as obtained by the electron spin resonance spectrometer being (a) 2.3480 and (b) 2.06456 and X-ray diffraction analysis having 3 significant peaks at 16.20057, 32.23910, and 39.57159, having peak heights of 835.63, 706.74, and 502.52, respectively. This acid-derived cupric silicate (see claim 57) exhibits 99% bactericidal properties.

In contrast, cupric silicate having a silicate to copper ratio of about 1:0.8 possesses the following properties when prepared under alkaline conditions: characteristic g values of the peaks as obtained by the electron spin resonance spectrometer being (a) 23.71806 and (b) 3.23001 and (c) 2.61681 and X-ray diffraction analysis having a significant peak at 26.64983, having a peak heights of 152.74. This base-derived cupric silicate exhibits no significant bactericidal property.

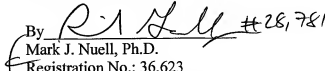
Accordingly, even if one or more of claims 1, 55-59, 68-71, or 78-82 were considered to be rendered *prima facie* obvious – which Applicant does not admit – the *prima facie* case of obviousness is rebutted by the unexpected beneficial property noted above.

Contact information

Withdrawal of all rejections of record is in order and is earnestly solicited. If there are any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at (703) 205-8008.

Dated: August 27, 2009

Respectfully submitted,

By  #28, 781
Mark J. Nuell, Ph.D.
Registration No.: 36,623
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Falls Church, Virginia
(703) 205-8000
Attorney for Applicant